

TECHNICAL SALES GUIDE - 50 Hz AND 60 Hz

DCS Major Saber Series

Air Cooled Condensing Units

30 to 50 Tons [R-407c]



Major Series (DCS)

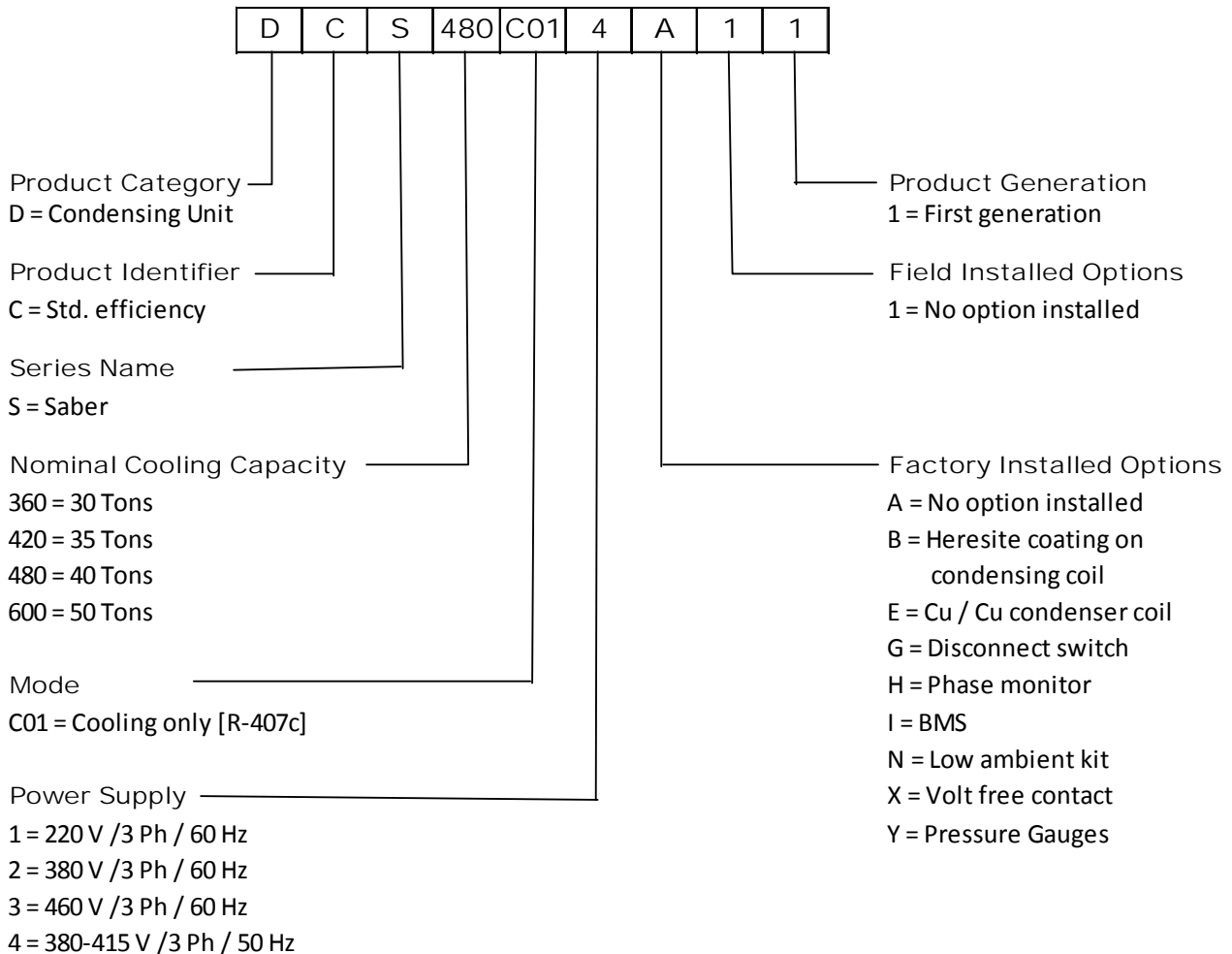
"Include YORK Simplicity Controller"

 **YORK**[®]
BY JOHNSON CONTROLS

CONTENTS

| | | | |
|---------------------------------------|---|------------------------------|----|
| Description | 3 | Electrical Data (50 Hz)..... | 8 |
| Typical unit configuration | 3 | Electrical Data (60 Hz)..... | 8 |
| Features | 4 | Dimensional Data | 9 |
| Simplicity controls..... | 4 | Wiring Diagram | 10 |
| Options Available | 5 | Field Wiring Diagram..... | 11 |
| Product Data [50 Hz]..... | 6 | Guide Specification..... | 12 |
| Product Data [60 Hz]..... | 6 | Maintenance | 13 |
| Cooling Performance Data (50 Hz)..... | 7 | Notes | 14 |
| Cooling Performance Data (60 Hz)..... | 7 | | |

PRODUCT NOMENCLATURE



DESCRIPTION

Models DCS 360, 420, 480, & 600 (30, 35, 40 & 50 Nominal Tons)

YORK Saber Johnson Controls Condensing units are high efficiency condensing units Models 360 to 480 have three independent refrigerant circuits, while model 600 has four independent refrigerant circuits for efficient part load operation. Although, the units are primarily designed for roof top installation they can also be slab mounted at ground level. A wide variety of factory mounted options and field installed accessories make the Saber condensing units suitable for almost every application.

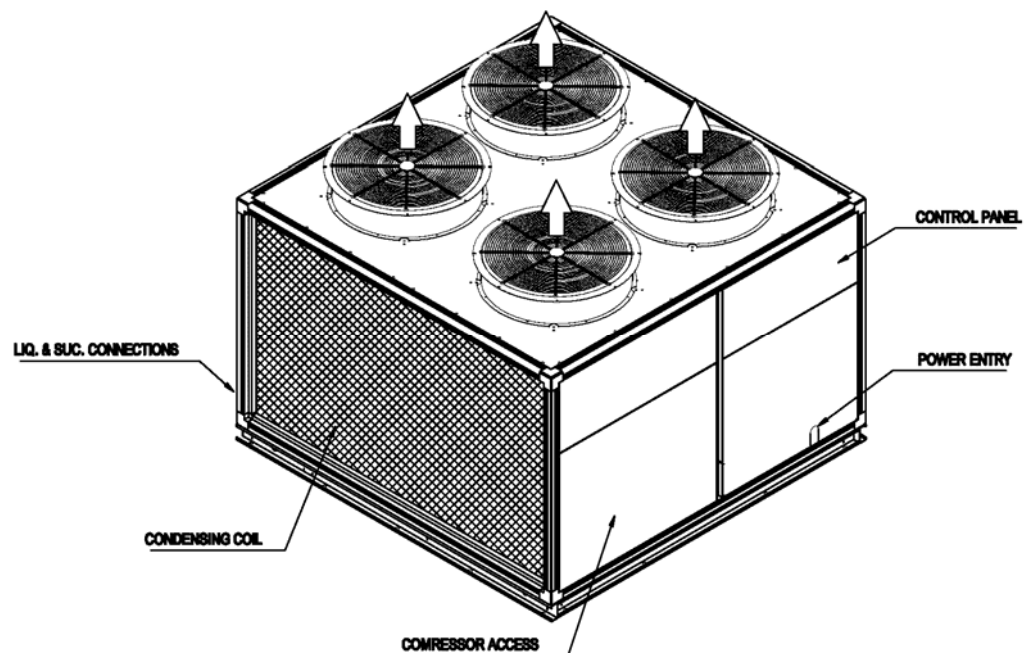
YORK Saber Condensing units are rated in accordance with ARI 360.

YORK Saber Condensing units are designed to operate satisfactorily in a wide range of ambient temperatures from 125°F (52°C) down to 50°F (10°C) as standard.

All standard units include :

- Powder paint finish that meets ASTM B 117, 750 hour salt spray standard.
- Multi-stage cooling provided by three or four independent refrigerant circuits with filter driers, high and low pressure switches and freezestats
- High Efficient Scroll Compressors.
- Totally Enclosed Air Over (TEAO) IP55 Condenser fan motors with Class F insulation.
- Microprocessor based Simplicity TM control board.
- Copper tubes / aluminum fins condenser coils.
- Rigging holes in base rails for overhead lifting.
- Single point power connection.
- 1 year limited warranty on the complete unit and additional 4 years warranty on compressors.

Typical Unit Configuration



FEATURES

Saber condensing units are self-contained and assembled on full perimeter base rails with rigging holes in the four corners for overhead rigging. Every unit is completely piped, wired, charged and tested at the factory to simplify the field installation and to provide years of dependable operation. The power supply can be routed into the control box through a gland in the wiring panel on the front of the unit.

Compressors are Hermetic Scroll type of advanced designed ensuring High Energy Efficiency Ratio less noise, less vibration and outstanding endurance. Crankcase heaters, internal pressure relief valve, internal compressor motor protection. Every refrigerant circuit includes a liquid line filter drier, a discharge line high and low pressure switches to protect all system components.

Condenser fans are propeller type of heavy duty construction, dynamically balanced and suitable for operate up to 80°C ambient. Fans are driven by TEAO IP55 motors with Class F insulation. The fan blade pitch Angle is designed for maximum airflow and minimum noise.

The condenser coils are constructed of seamless internally enhanced copper tubes which are mechanically bonded to aluminum fins. Heat Exchangers are tested up to a pressure 450 psig.

All cabinet panels are made from pre-plasticized sheets are hot dip galvanized with PVC coating providing an excellent resistance to UV & corrosion. Panels are removable and fixed to frame with self tapping screws.

All Saber condensing units are equipped with a control panel that includes all the necessary operating and safety controls that are needed for reliable operation. Compressors are protected with internal thermal overload and fan motors with external overload.

Transformers and control circuits are protected with fuses. The microprocessor based **Simplicity™** control board which provides both intelligent monitoring and easy diagnostics, as featured below.

- **Anti Short Cycle Protection:** To aid compressor life, an anti-short cycle delay is incorporated into the standard controls. Compressor reliability is further ensured by programmable minimum run times. For testing, the anti short cycle delay can be temporarily overridden with the push of a button.
- **Fan Delays:** Fan on and fan off delays are fully Programmable. Furthermore, the heating and cooling Fan delay times are independent of one another. All units are programmed with default values based upon their configuration of cooling and heating.
- **Safety Monitoring:** High flow pressure switches and suction line freezestats are supplied on all units to protect against loss of charge and the occurrence of coil frosting. The control board monitors the high and low pressure switches and the freezestats. The unit control board will alarm on compressor lockouts and repeated limit switch trips on electric heat units.
- **Nuisance Trip Protection:** To prevent nuisance Trouble calls, the control board uses a “three times, you’re out” philosophy. The high and low-pressure switches and the freezestats must trip three times within two hours before the unit control board will lock out the associated compressor.
- **On Board Diagnostics:** Each alarm will energize a trouble light on the thermostat, if so equipped, and Flash an alarm code on the control board LED. Each high and low-pressure switch alarm as well as each freezestat alarm has its own flash code. The control board saves the five most recent alarms in memory, and these alarms can be reviewed at any time.
- **Nonvolatile Memory:** Alarms and programmed values are retained through the loss of power.

OPTIONS AVAILABLE

- **Heresite Coated Condenser Coils (factory installed):** Coating is applied by spray for maximum corrosion protection.
- **Copper Tube And Copper Fin Evaporator And Condenser Coils (factory installed).**
- **Service Valves (factory installed):** Compressor service valves for suction & discharge line.
- **Phase Monitors (factory installed):** Design to prevent unit damage, the phase monitor will shut the unit down in an out-of phase condition.
- **Main Disconnect Switch (factory installed):** Suitably sized in accordance with the applicable electrical codes.
- **Thermostat (field installed):** For 3 / 4 Stage cooling only and 2 Stage heating.
- **BMS Controls:** Johnson Controls YORK Saber series units offer factory mounted BMS controls- Consult your local sales office for details.
- **Low Ambient Kit (factory installed):** For unit to work satisfactorily down to 32°F (0°C).

PRODUCT DATA - 50 Hz (R-407c)

| Model | | DCS | 360 | 420 | 480 | 600 |
|-----------------------|----------------|-----------------------------------|-----------------------------------------------------------------------|------------|------------|-------------|
| Condenser Coil | Tube | | Enhanced Copper | | | |
| | Fins | | Aluminum | | | |
| | Area | ft ² (m ²) | 50.7 (4.7) | 50.7 (4.7) | 50.7 (4.7) | 50.7 (4.7) |
| Condenser Fan & Motor | Type | | 4 Blade heavy duty Propeller Fan | | | |
| | Quantity | # | 3 | 4 | 4 | 4 |
| | Motor Type | | 6 Pole, Class F Insulation, Totally Enclosed Air Over, IP 55, 950 rpm | | | |
| | Motor size | hp (kW) | 1.5 (1.1) | 1.5 (1.1) | 1.5 (1.1) | 1.5 (1.1) |
| | Quantity | # | 3 | 4 | 4 | 4 |
| Compressor | Type | | Hermetic Scroll | | | |
| | # of Comp.s | # | 3 | 3 | 3 | 4 |
| Refrigerant | Type | | R-407c | | | |
| | No of Circuits | | 3 | 3 | 3 | 4 |
| Dimensions | Height | inches (mm) | 65.1 (1654) | | | |
| | Width | inches (mm) | 88.0 (2235) | | | |
| | Length | inches (mm) | 88.0 (2235) | | | |
| Weights | Basic Unit | lbs (Kg) | 1804 (820) | 1892 (860) | 1936 (880) | 2354 (1070) |

PRODUCT DATA - 60 Hz (R-407c)

| Model | | DCS | 360 | 420 | 480 | 600 |
|-----------------------|----------------|-----------------------------------|------------------------------------------------------------------------|------------|------------|-------------|
| Condenser Coil | Tube | | Enhanced Copper | | | |
| | Fins | | Aluminum | | | |
| | Area | ft ² (m ²) | 50.7 (4.7) | 50.7 (4.7) | 50.7 (4.7) | 50.7 (4.7) |
| Condenser Fan & Motor | Type | | 4 Blade heavy duty Propeller Fan | | | |
| | Quantity | # | 3 | 4 | 4 | 4 |
| | Motor Type | | 6 Pole, Class F Insulation, Totally Enclosed Air Over, IP 55, 1100 rpm | | | |
| | Motor size | hp (kW) | 1.5 (1.1) | 1.5 (1.1) | 1.5 (1.1) | 1.5 (1.1) |
| | Quantity | # | 3 | 4 | 4 | 4 |
| Compressor | Type | | Hermetic Scroll | | | |
| | # of Comp.s | # | 3 | 3 | 3 | 4 |
| Refrigerant | Type | | R-407c | | | |
| | No of Circuits | | 3 | 3 | 3 | 4 |
| Dimensions | Height | inches (mm) | 65.1 (1654) | | | |
| | Width | inches (mm) | 88.0 (2235) | | | |
| | Length | inches (mm) | 88.0 (2235) | | | |
| Weights | Basic Unit | lbs (Kg) | 1804 (820) | 1892 (860) | 1936 (880) | 2354 (1070) |

COOLING PERFORMANCE DATA
R407c
CONDENSING UNIT ONLY COOLING CAPACITIES AND POWER REQUIRMENTS – 50 Hz

| Model | SST | | 85 °F (29.4 °C) | | | 95 °F (35 °C) | | | 105 °F (40.6 °C) | | | 115 °F (46.1 °C) | | | 125 °F (51.7 °C) | | |
|-------|-----|------|-----------------|-------|------|----------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|-------|
| | | | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI |
| DCS | ° F | ° C | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW |
| 360 | 35 | 1.7 | 256.8 | 75.3 | 23.2 | 241.8 | 70.9 | 25.7 | 226.2 | 66.3 | 28.5 | 209.7 | 61.5 | 31.7 | 192.4 | 56.4 | 35.2 |
| | 40 | 4.4 | 283.4 | 83.1 | 23.8 | 266.9 | 78.2 | 26.3 | 249.7 | 73.2 | 29.1 | 232.0 | 68.0 | 32.3 | 213.4 | 62.5 | 35.9 |
| | 45 | 7.2 | 313.1 | 91.8 | 24.4 | 294.9 | 86.4 | 26.9 | 276.0 | 80.9 | 29.7 | 256.5 | 75.2 | 32.8 | 235.5 | 69.0 | 36.6 |
| | 50 | 10.0 | 343.9 | 100.8 | 25.1 | 323.9 | 94.9 | 27.6 | 303.2 | 88.9 | 30.4 | 281.9 | 82.6 | 33.6 | 260.0 | 76.2 | 37.2 |
| 420 | 35 | 1.7 | 263.8 | 77.3 | 21.4 | 248.5 | 72.8 | 23.8 | 232.9 | 68.3 | 26.6 | 216.4 | 63.4 | 29.8 | 198.1 | 58.1 | 33.5 |
| | 40 | 4.4 | 292.1 | 85.6 | 21.8 | 275.4 | 80.7 | 24.2 | 258.3 | 75.7 | 27.0 | 240.4 | 70.5 | 30.1 | 221.5 | 64.9 | 33.7 |
| | 45 | 7.2 | 311.5 | 91.3 | 22.3 | 304.2 | 89.2 | 24.7 | 285.3 | 83.6 | 27.4 | 265.8 | 77.9 | 30.5 | 245.5 | 72.0 | 34.0 |
| | 50 | 10.0 | 350.1 | 102.6 | 22.9 | 332.0 | 97.3 | 25.2 | 313.0 | 91.7 | 28.0 | 293.0 | 85.9 | 31.0 | 270.9 | 79.4 | 34.5 |
| 480 | 35 | 1.7 | 368.7 | 108.1 | 34.4 | 353.6 | 103.7 | 38.3 | 329.7 | 96.6 | 42.7 | 305.0 | 89.4 | 47.5 | 279.7 | 82.0 | 52.8 |
| | 40 | 4.4 | 416.3 | 122.0 | 35.2 | 392.6 | 115.1 | 39.2 | 365.9 | 107.2 | 43.4 | 338.7 | 99.3 | 48.2 | 311.2 | 91.2 | 53.6 |
| | 45 | 7.2 | 462.7 | 135.6 | 36.3 | 432.9 | 126.9 | 40.1 | 403.9 | 118.4 | 44.6 | 361.0 | 105.8 | 49.4 | 342.2 | 100.3 | 54.7 |
| | 50 | 10.0 | 489.9 | 143.6 | 37.5 | 476.3 | 139.6 | 41.3 | 411.1 | 120.5 | 45.9 | 395.4 | 115.9 | 50.9 | 373.8 | 109.5 | 56.3 |
| 600 | 35 | 1.7 | 496.8 | 145.6 | 47.1 | 465.6 | 136.5 | 52.5 | 433.8 | 127.2 | 58.4 | 400.9 | 117.5 | 64.8 | 367.3 | 107.6 | 72.0 |
| | 40 | 4.4 | 547.5 | 160.5 | 48.5 | 513.2 | 150.4 | 54.0 | 478.3 | 140.2 | 59.9 | 442.8 | 129.8 | 66.4 | 406.2 | 119.0 | 73.6 |
| | 45 | 7.2 | 600.8 | 176.1 | 50.0 | 563.4 | 165.1 | 55.5 | 525.2 | 153.9 | 61.6 | 486.3 | 142.5 | 68.2 | 446.8 | 131.0 | 75.3 |
| | 50 | 10.0 | 656.7 | 192.5 | 51.6 | 616.6 | 180.7 | 57.2 | 576.9 | 169.1 | 63.2 | 532.7 | 156.1 | 69.9 | 323.2 | 94.7 | 102.8 |

CONDENSING UNIT ONLY COOLING CAPACITIES AND POWER REQUIRMENTS – 60 Hz

| Model | SST | | 85 °F (29.4 °C) | | | 95 °F (35 °C) | | | 105 °F (40.6 °C) | | | 115 °F (46.1 °C) | | | 125 °F (51.7 °C) | | |
|-------|-----|------|-----------------|-------|------|----------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|-------|
| | | | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI | Total Capacity | | PI |
| DCS | ° F | ° C | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW | MBh | kW | kW |
| 360 | 35 | 1.7 | 263.3 | 77.2 | 23.6 | 247.5 | 72.5 | 26.2 | 231.4 | 67.8 | 29.1 | 215.2 | 63.1 | 32.3 | 198.9 | 58.3 | 35.8 |
| | 40 | 4.4 | 291.8 | 85.5 | 24.2 | 273.4 | 80.1 | 26.9 | 255.9 | 75.0 | 29.8 | 238.5 | 69.9 | 33.0 | 221.2 | 64.8 | 36.5 |
| | 45 | 7.2 | 321.2 | 94.1 | 25.0 | 302.1 | 88.6 | 27.6 | 283.1 | 83.0 | 30.5 | 264.0 | 77.4 | 33.6 | 245.2 | 71.9 | 37.1 |
| | 50 | 10.0 | 352.7 | 103.4 | 26.0 | 331.8 | 97.2 | 28.5 | 311.1 | 91.2 | 31.4 | 290.5 | 85.1 | 34.4 | 270.0 | 79.1 | 37.9 |
| 420 | 35 | 1.7 | 271.0 | 79.4 | 21.6 | 255.1 | 74.8 | 24.2 | 238.6 | 69.9 | 27.1 | 221.9 | 65.0 | 30.4 | 204.9 | 60.1 | 33.9 |
| | 40 | 4.4 | 300.3 | 88.0 | 22.1 | 282.7 | 82.9 | 24.6 | 264.9 | 77.6 | 27.5 | 246.9 | 72.4 | 30.7 | 228.7 | 67.0 | 34.2 |
| | 45 | 7.2 | 331.4 | 97.1 | 22.7 | 312.0 | 91.5 | 25.2 | 292.7 | 85.8 | 28.1 | 273.2 | 80.1 | 31.2 | 253.5 | 74.3 | 34.7 |
| | 50 | 10.0 | 362.4 | 106.2 | 23.6 | 343.5 | 100.7 | 25.9 | 322.2 | 94.4 | 28.7 | 301.2 | 88.3 | 31.8 | 280.0 | 82.1 | 35.2 |
| 480 | 35 | 1.7 | 401.1 | 117.6 | 36.8 | 377.2 | 110.5 | 40.8 | 353.4 | 103.6 | 45.1 | 328.5 | 96.3 | 50.1 | 303.4 | 88.9 | 55.7 |
| | 40 | 4.4 | 435.5 | 127.7 | 37.9 | 417.7 | 122.4 | 41.8 | 390.9 | 114.6 | 46.4 | 363.9 | 106.7 | 51.4 | 334.6 | 98.1 | 57.0 |
| | 45 | 7.2 | 492.0 | 144.2 | 39.2 | 461.5 | 135.3 | 43.2 | 428.0 | 125.4 | 47.9 | 397.5 | 116.5 | 53.1 | 372.1 | 109.0 | 58.6 |
| | 50 | 10.0 | 496.7 | 145.6 | 40.4 | 498.0 | 146.0 | 45.0 | 472.8 | 138.6 | 49.2 | 422.8 | 123.9 | 54.3 | 402.6 | 118.0 | 60.1 |
| 600 | 35 | 1.7 | 527.7 | 154.7 | 50.6 | 494.9 | 145.1 | 56.2 | 462.8 | 135.7 | 62.2 | 430.2 | 126.1 | 68.9 | 396.7 | 116.3 | 76.4 |
| | 40 | 4.4 | 580.5 | 170.2 | 52.3 | 545.4 | 159.9 | 57.8 | 510.1 | 149.5 | 63.9 | 473.6 | 138.8 | 70.8 | 437.9 | 128.3 | 78.2 |
| | 45 | 7.2 | 637.0 | 186.7 | 54.1 | 598.1 | 175.3 | 59.7 | 560.0 | 164.1 | 65.6 | 520.3 | 152.5 | 72.7 | 242.8 | 71.2 | 106.9 |
| | 50 | 10.0 | 697.5 | 204.4 | 55.8 | 655.4 | 192.1 | 61.6 | 613.2 | 179.7 | 67.6 | 570.7 | 167.3 | 74.6 | 527.5 | 154.6 | 82.2 |

Note : POWER REQUIREMENTS includes compressor(s) and condenser(s) fan motors.

Electrical Data – 50HZ (R-407c)

| Power Supply | 380-415 V / 3 Ph / 50 Hz | | | | |
|--------------|--------------------------|-----------------|----------------------|-------------------------|---------------------------|
| Model | Compressors | | Condenser Fan Motors | Minimum Circuit Amperes | Maximum Fuse Breaker Size |
| | <i>RLA Each</i> | <i>LRA Each</i> | <i>FLA Each</i> | <i>Amperes</i> | <i>Amperes</i> |
| DCS 360 | 19.2 | 118 | 3.2 | 72.0 | 90 |
| DCS 420 | 19.2 | 118 | 3.2 | 75.2 | 90 |
| DCS 480 | 27.9 | 173 | 3.2 | 103.3 | 125 |
| DCS 600 | 27.9 | 173 | 3.2 | 131.2 | 150 |

Electrical Data – 60HZ (R-407C)

| Model | DCS-360 | | | | |
|---------------------|-----------------|-----------------|----------------------|-------------------------|---------------------------|
| Voltage | Compressors | | Condenser Fan Motors | Minimum Circuit Amperes | Maximum Fuse Breaker Size |
| | <i>RLA Each</i> | <i>LRA Each</i> | <i>FLA Each</i> | <i>Amperes</i> | <i>Amperes</i> |
| 220 V / 3Ph / 60 Hz | 32.1 | 237 | 5.0 | 144.8 | 175 |
| 380 V / 3Ph / 60 Hz | 19.3 | 160 | 2.9 | 86.0 | 100 |
| 460 V / 3Ph / 60 Hz | 15.7 | 130 | 3.0 | 73.6 | 80 |

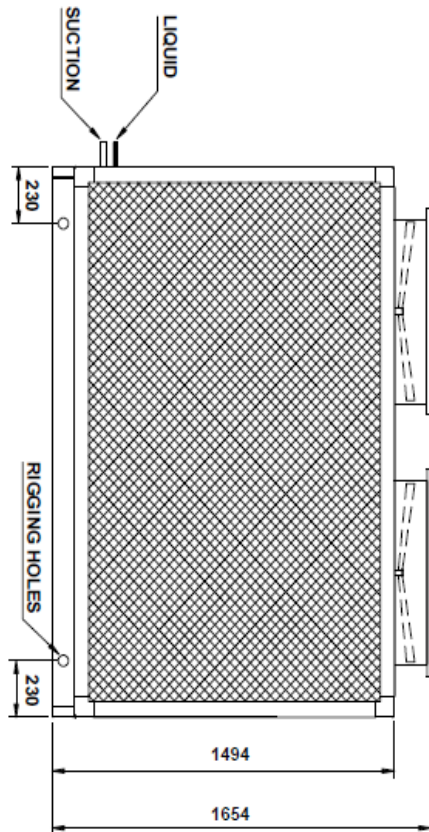
| Model | DCS-420 | | | | |
|---------------------|-----------------|-----------------|----------------------|-------------------------|---------------------------|
| Voltage | Compressors | | Condenser Fan Motors | Minimum Circuit Amperes | Maximum Fuse Breaker Size |
| | <i>RLA Each</i> | <i>LRA Each</i> | <i>FLA Each</i> | <i>Amperes</i> | <i>Amperes</i> |
| 220 V / 3Ph / 60 Hz | 32.1 | 237 | 5.0 | 149.8 | 175 |
| 380 V / 3Ph / 60 Hz | 19.3 | 160 | 2.9 | 88.9 | 100 |
| 460 V / 3Ph / 60 Hz | 15.7 | 130 | 3.0 | 76.6 | 90 |

| Model | DCS-480 | | | | |
|---------------------|-----------------|-----------------|----------------------|-------------------------|---------------------------|
| Voltage | Compressors | | Condenser Fan Motors | Minimum Circuit Amperes | Maximum Fuse Breaker Size |
| | <i>RLA Each</i> | <i>LRA Each</i> | <i>FLA Each</i> | <i>Amperes</i> | <i>Amperes</i> |
| 220 V / 3Ph / 60 Hz | 45.7 | 255 | 5.0 | 207.0 | 250 |
| 380 V / 3Ph / 60 Hz | 27.1 | 155 | 2.9 | 121.7 | 125 |
| 460 V / 3Ph / 60 Hz | 22.9 | 145 | 3.0 | 105.7 | 125 |

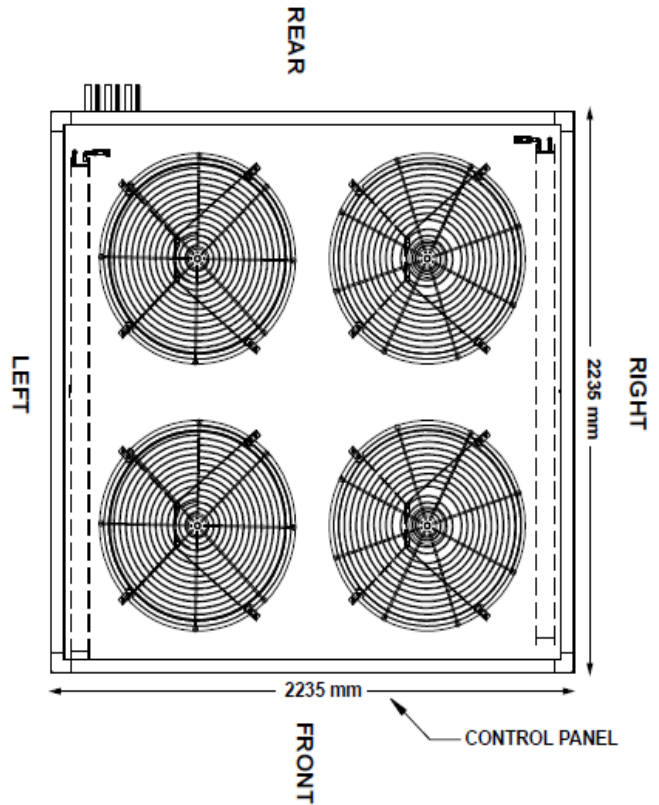
| Model | DCS-600 | | | | |
|---------------------|-----------------|-----------------|----------------------|-------------------------|---------------------------|
| Voltage | Compressors | | Condenser Fan Motors | Minimum Circuit Amperes | Maximum Fuse Breaker Size |
| | <i>RLA Each</i> | <i>LRA Each</i> | <i>FLA Each</i> | <i>Amperes</i> | <i>Amperes</i> |
| 220 V / 3Ph / 60 Hz | 45.7 | 255 | 5.0 | 252.8 | 250 |
| 380 V / 3Ph / 60 Hz | 27.1 | 155 | 2.9 | 148.9 | 175 |
| 460 V / 3Ph / 60 Hz | 22.9 | 145 | 3.0 | 128.5 | 150 |

DIMENSIONAL DATA

DIMENSIONS AND CLEARANCES

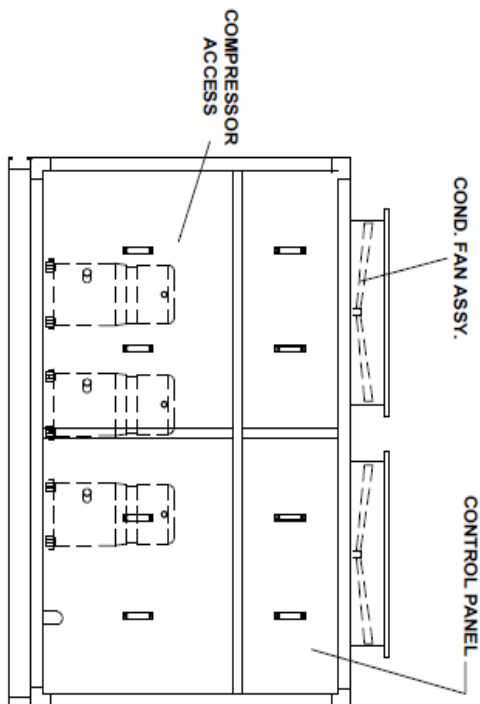


For parallel location of multiple units a minimum clearance between the units must be 50% more than the recommended clearance for single unit installation. Do not duct fan exhaust and do not place any obstruction on any fan outlet.

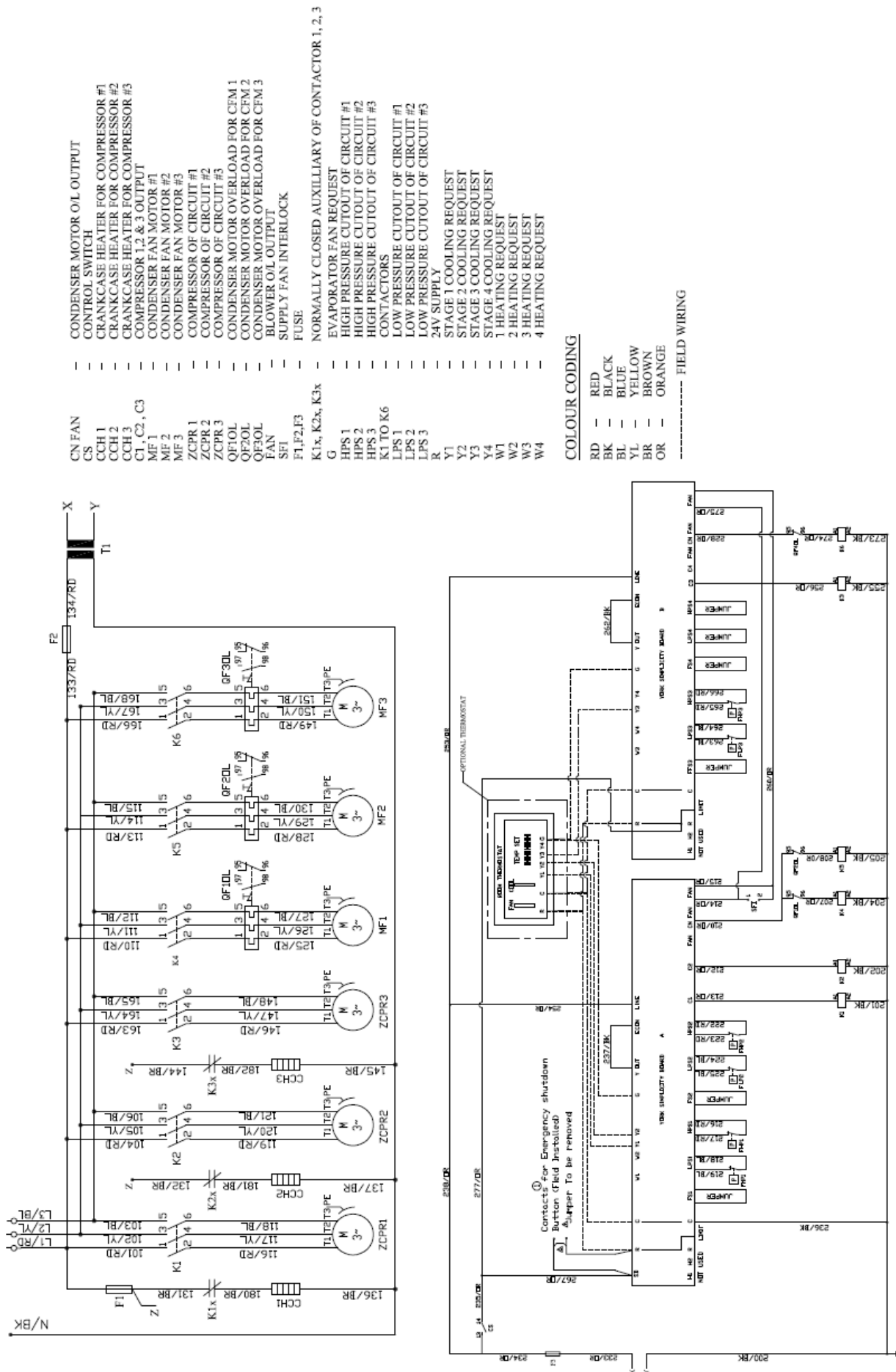


| FRONT | 36" |
|-------|-----|
| REAR | 30" |
| RIGHT | 48" |
| LEFT | 48" |

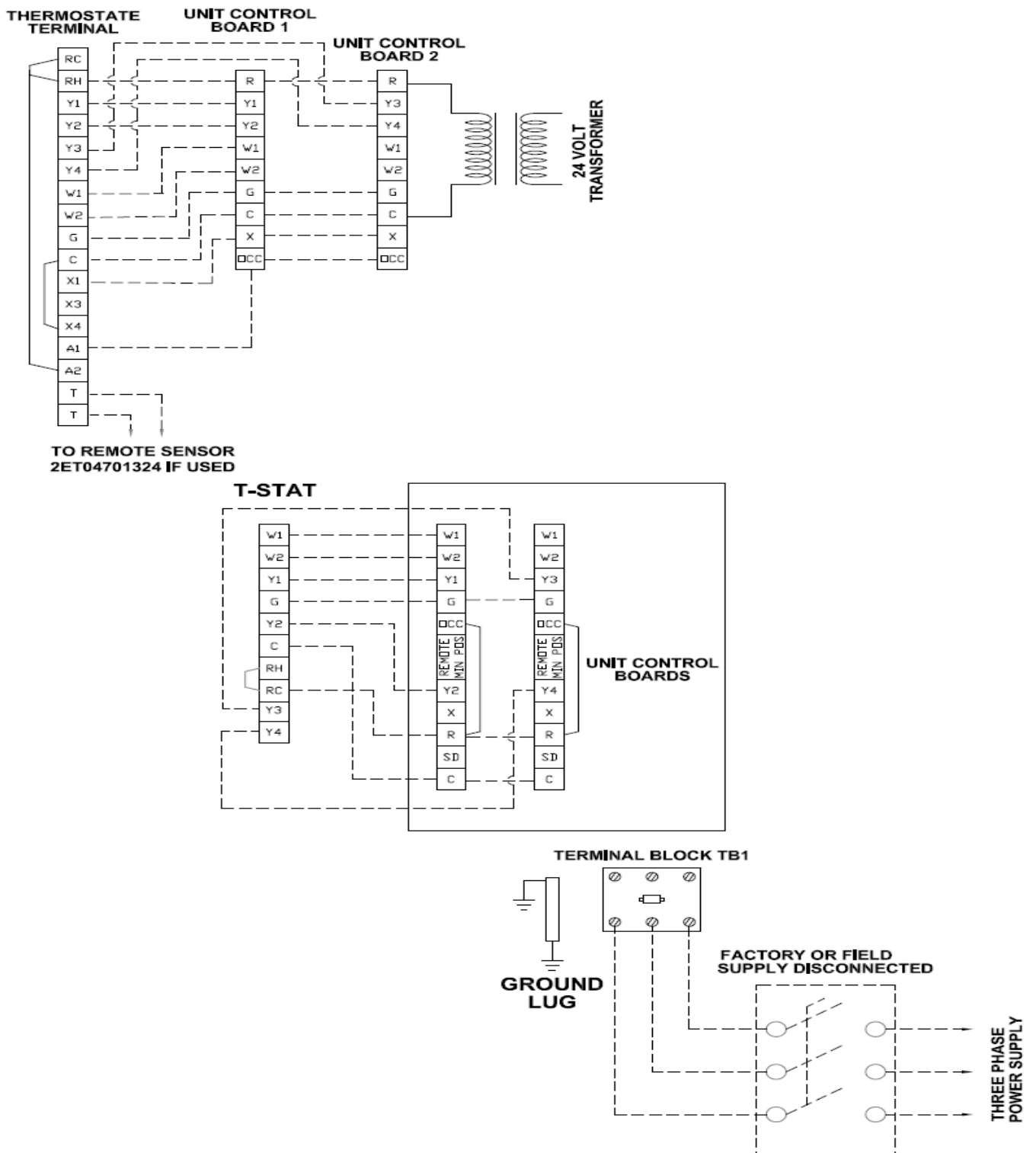
| 30, 35 & 40 TON - 3 CIRCUIT | | |
|-----------------------------|---------|-----------|
| 50 TON - 4 CIRCUIT | | |
| | LIQUID | SUCTION |
| 30 | 1/2 x 3 | 1 1/8 x 3 |
| 35 | 1/2 x 3 | 1 1/8 x 3 |
| 40 | 5/8 x 3 | 1 3/8 x 3 |
| 50 | 5/8 x 4 | 1 3/8 x 4 |



TYPICAL WIRING DIAGRAM



FIELD WIRING DIAGRAM: 50 Hz & 60 Hz



GUIDE SPECIFICATIONS

DESCRIPTION

Standard Units shall be factory assembled, cool only, designed for outdoor mounted installation. The units shall be factory wired, piped, All unit wiring shall be both numbered and colour coded.

UNIT CABINET AND FRAME

The main frame shall be constructed of extruded aluminum profile joined by 3D nylon reinforced ABS plastic rounded corners forming the structural frame to house all internal components.

All cabinet panels shall be made from G90 pre-plasticized sheets which are hot dip galvanized with PVC coating and shall provide an excellent resistance to UV & correction.

Panels shall be easily removable for inspection and maintenance, and shall be fixed to the frame with self tapping screws. External skin of the panels shall comply with ASTM B117 standards suitable for 750 hours salt spray test. Cabinet panels shall be easily removable for servicing and maintenance. Full perimeters base rails shall be provided.

OUTDOOR (CONDENSER) FAN ASSEMBLY

Each unit shall have three or four condenser fans / motors. The outdoor fans shall be of direct driven propeller type, discharge air vertically and shall be dynamically balanced for smooth operation. The outdoor fan motors shall be TEAO IP55 with class F insulation. Motors shall have permanently lubricated bearings and shall have external overload protection.

REFRIGERANT COMPONENTS

Compressors

- a. Compressors for all models shall be Hermetic Scroll. All compressors shall be internally protected with internal high pressure relief and over temperature protection. The compressors shall be mounted on neoprene mounts to eliminate vibration from being transmitted to the unit structure and cabinet.

Coils

- a. Condenser coils shall have aluminum fins mechanically bonded to seamless internally enhanced copper tubes with all joints brazed. Condenser fin spacing shall be limited to 16 fpi for 30 tons models to maximize heat transfer while fin spacing shall be limited to 12 fpi in 35, 40 and 50 TR modles to minimize blockage and high pressure operating condition, special heresite coating shall be available as factory options.
- b. Condenser coils shall be of the direct expansion, draw-thru, design. Coils shall be tested up to a pressure of 450 psig (condenser).

Refrigerant Circuit and Refrigerant Safety componentss hall include

- a. Filter drier to eliminate any moisture or foreign matter.
- b. Accessible service valve connections on both suction and discharge lines to charge, evacuate, and measure refrigerant pressure during any necessary servicing or troubleshooting, without losing charge.
- c. The refrigeration system shall provide at least 15°F of sub-cooling at design conditions.
- d. Unit shall operate with conventional thermostat designs and have a low voltage terminal strip for easy hookup.
- e. Unit control board shall have on-board diagnostics and fault code display.
- f. Standard controls shall include anti-short cycle and low voltage protection, and permit cooling operation down to 50°F.
- g. Control board shall monitor each refrigerant safety switch independently.
- h. Control board shall retain last 5 fault codes in nonvolatile memory, which will not be lost in the event of a power loss.

UNIT OPERATING CHARACTERISTICS

Unit shall be capable of starting and running at 125°F outdoor temperature. The compressor, with standard controls, shall be capable of operation down to 50°F outdoor temperature.

ELECTRICAL REQUIREMENTS

All unit power wiring shall enter unit cabinet at a single factory provided gland be capable of side entry.

MAINTENANCE

The Saber Condensing are premium quality machines with very low maintenance requirements.

Compressors used in Saber condensing Units are of Scroll type and are charged with the correct amount of refrigerant and lubricating oil. Unless there is a leak in the system, no topping up is generally required.

EVERY SIX MONTH

- The Condenser coils should be cleaned by spraying water over it at low pressure or with a brush while ensuring that the fins are not damaged.
- Check all electrical connections and tighten them if required.
- Clean all accessible electrical panels of dirt and dust before cleaning the control panels, ENSURE that the electrical power to the unit is switched off.

EVERY 12 MONTHS

In addition to the maintenance done every six months :

- Use a proper cleaning cloth to clean fan blades and motors.
- Ensure that the unit is working properly by checking, current, voltages, pressures and temperatures.
- Check the earthing or grounding of the unit.
- Check the exterior of the unit for any signs of corrosion. Even though it is highly unlikely, if any corrosion that is seen, should be removed by proper sanding the surface. Repaint the unit with proper touch up paint, available from Johnson controls York.
- Check the unit for any unusual vibrations or noise, locate the cause and rectify it by changing mounts, base isolators etc as required.

[illegible]

This image shows a full page of a handwriting practice worksheet. It consists of numerous horizontal dashed lines spaced evenly across the page, providing a guide for letter height and placement. The lines are light gray and extend from the left margin to the right edge of the page. There are no margins, text, or other markings present.

[illegible]

Johnson Controls provides comfortable environments wherever you Live, Work or Travel

Whether you're at home, in a car, or in an office or workplace, chances are there's a Johnson Controls product or service nearby, helping to make your environment more comfortable, safe and sustainable.

Johnson Controls creates smart environments that improve the places where people spend most of their time – their homes, workplaces and vehicles. We anticipate consumer needs, and then integrate technologies, products and services to make life better and easier.

For Johnson Controls, sustainability matters at every level and through our products, service operations and community involvement, we promote the efficient use of resources to benefit all people and the world. Our triple bottom line of sustainability that is, economic prosperity, environmental stewardship and social responsibility impacts each and every aspect of our business. York products are now a premier brand manufactured by Johnson Controls. The acquisition of York, gives us a unique insight into designing HVAC products that match your exact requirements. We provide solutions for today's most critical concerns - energy efficiency, refrigerant alternatives and indoor air quality.

Johnson Controls has a wide range of York products for residential, light commercial and commercial applications. Our offering includes package & split air conditioners and heat pumps. In addition, Johnson Controls offers chillers, air handling units, ventilation equipment and controls for larger projects.

Our advanced technology is leading the way in developing efficient and environment friendly solutions for your homes, offices and places of leisure.

Let us create the ideal environment for you.

Technical Sales Guide # TSG-3050-R407c-5060(DCSMAJOR-14R02)
50&60Hz - R407c MGK

We reserve the right to change in part or in whole the specifications without prior notice.

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